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High Fidelity Prototypes

User Experience Design

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Hi-Fi Prototypes

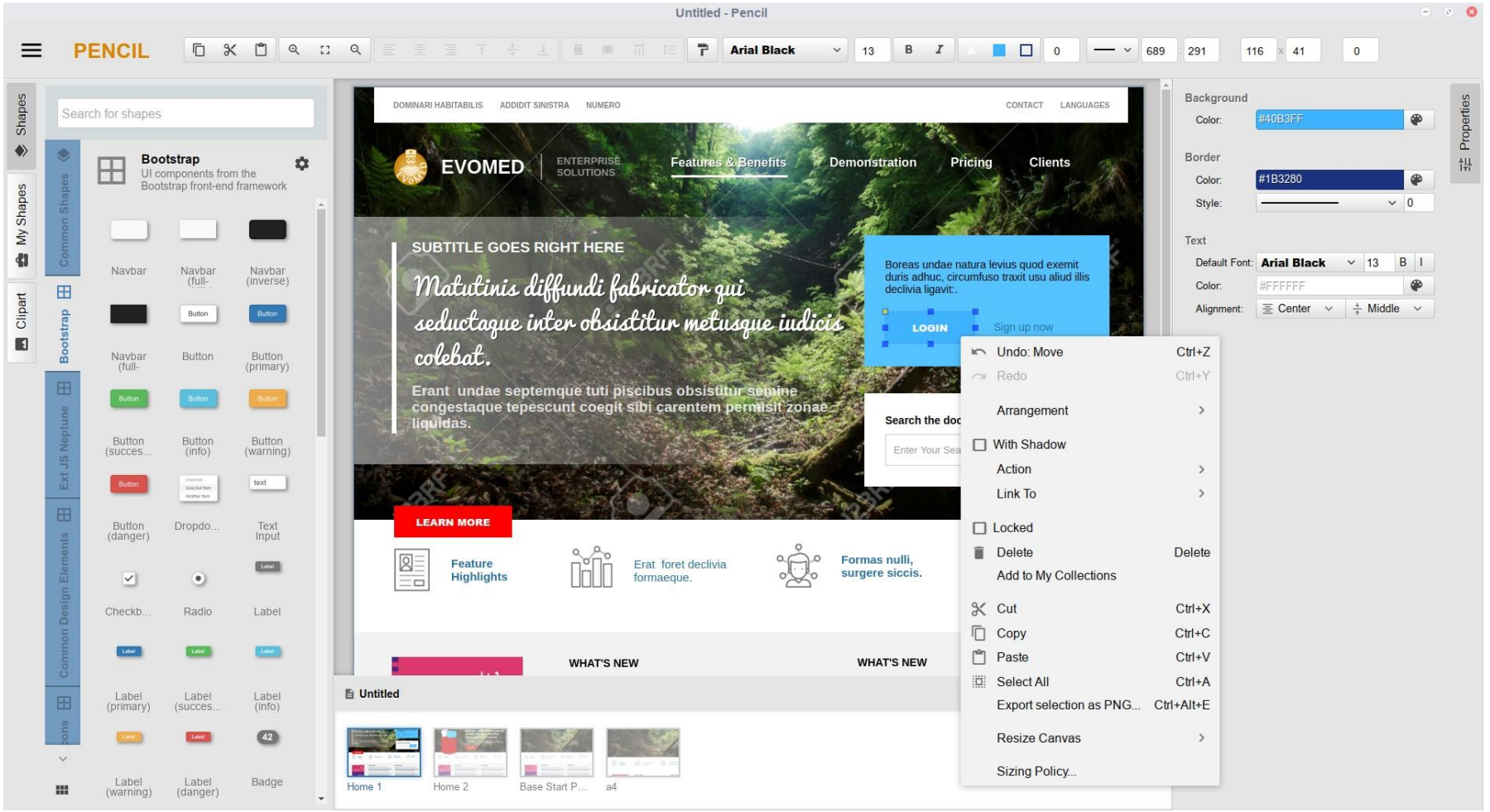
- Actual computer application, with final-looking layout, colors, and graphics
  - May use design prototyping tools
  - May use real application code
- Much more expensive to build
- More time is spent with graphic design than interaction design
- When tested, people will mostly comment about colors, fonts, …
  - representation communicates “finished”

What Can We Learn From Hi-Fi Interactive Prototypes?

- Screen layout
  - Is it clear, overwhelming, distracting, complicated?
  - Can users find important elements?
- Colors, fonts, icons, other elements
  - Well-chosen?
- Interactive feedback
  - Do users notice & respond to status bar messages, cursor changes, other feedback
- Efficiency issues
  - Controls big enough? Too close together? Scrolling list is too long?

High-fidelity Computer Prototypes

Semi-interactive



Some Tools For Semi-Interactive Hi-Fi Prototypes

No-Code

https://www.invisionapp.com/

https://www.figma.com

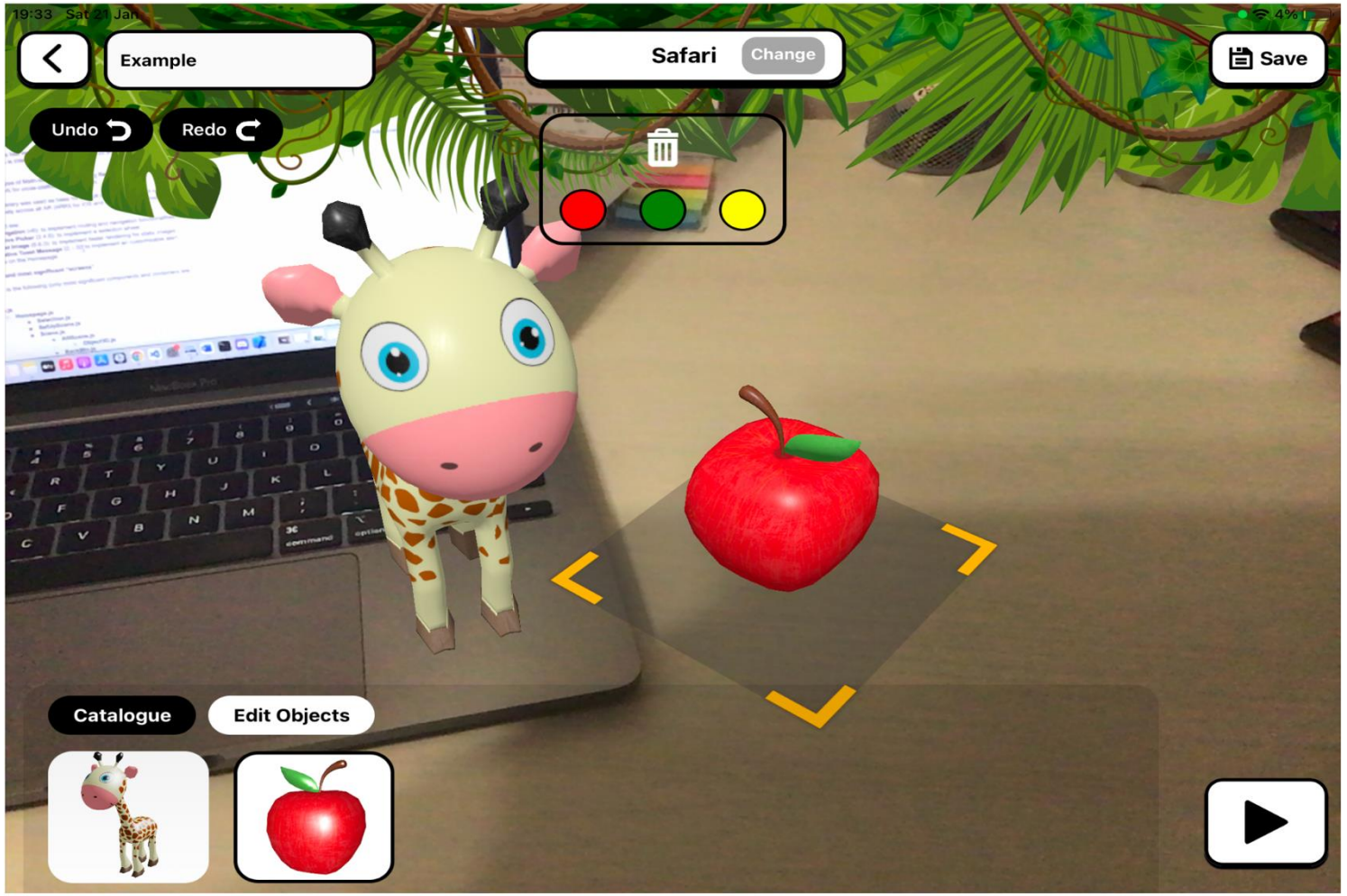
https://froont.com/

https://webflow.com/

https://principleformac.com/

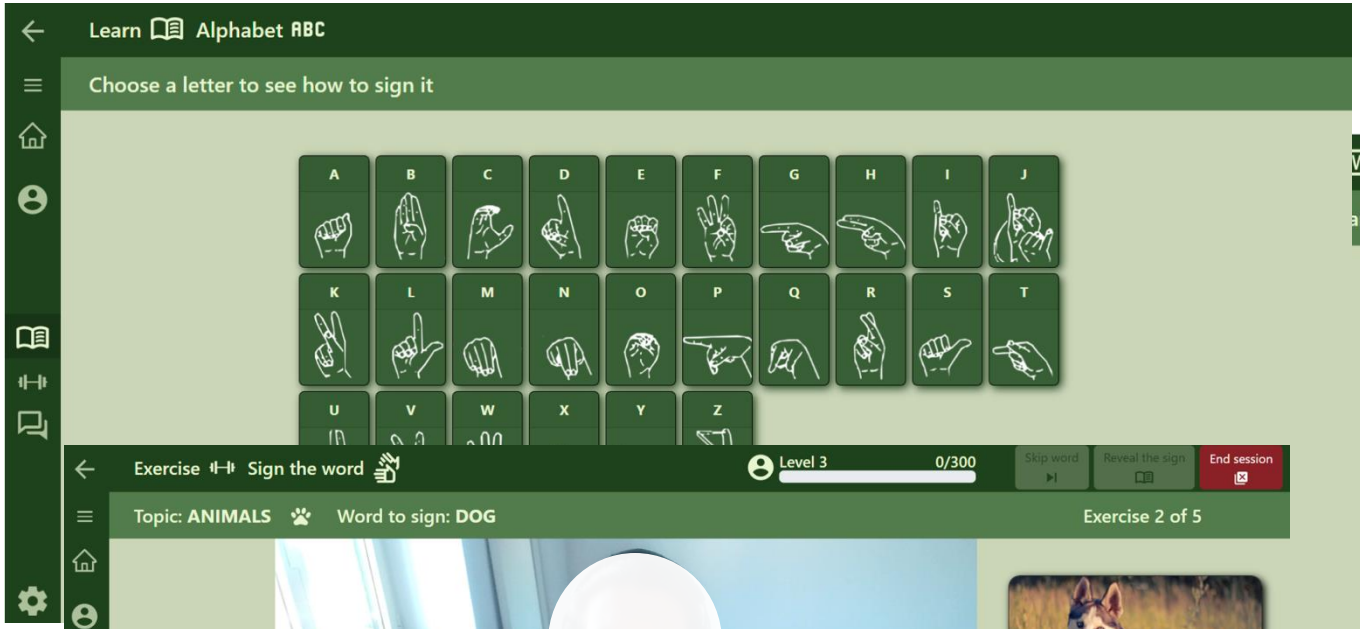
High-fidelity Prototypes

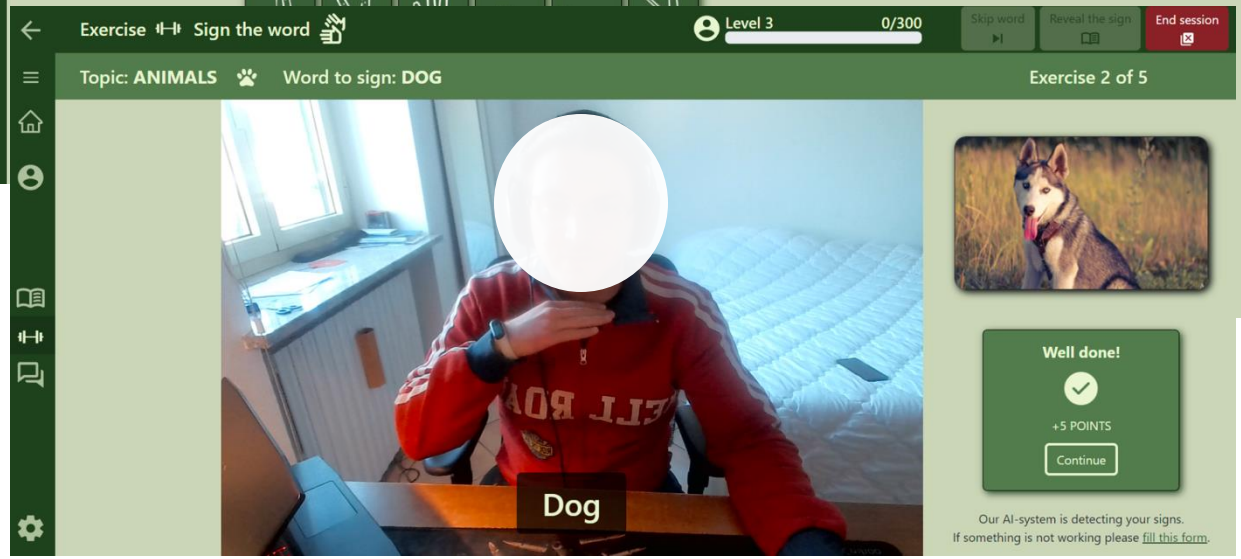
With Code

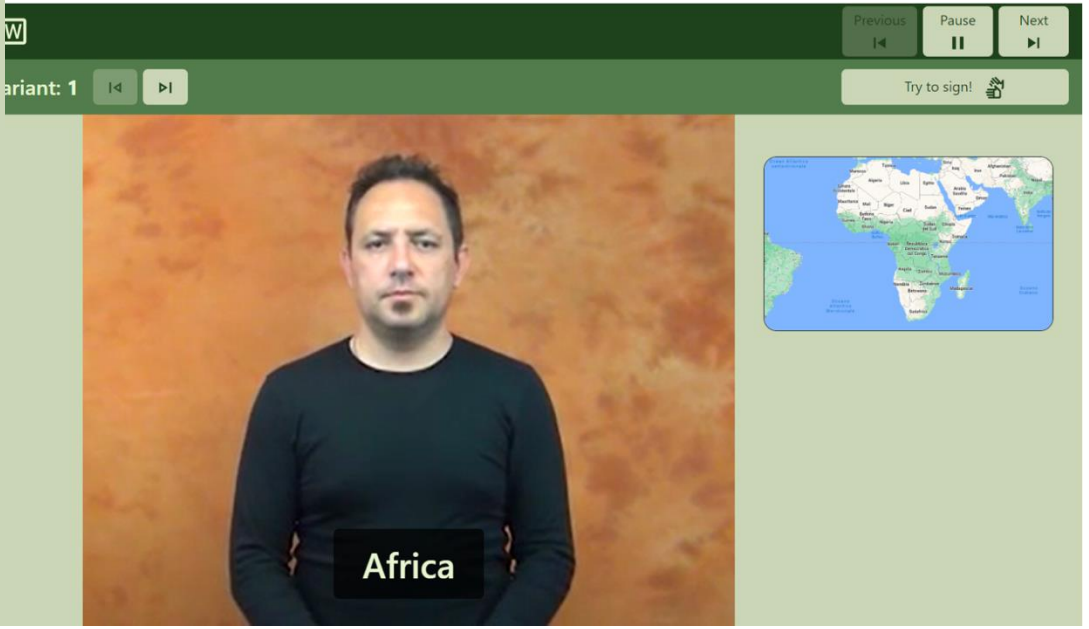


High-fidelity Prototypes

With Code

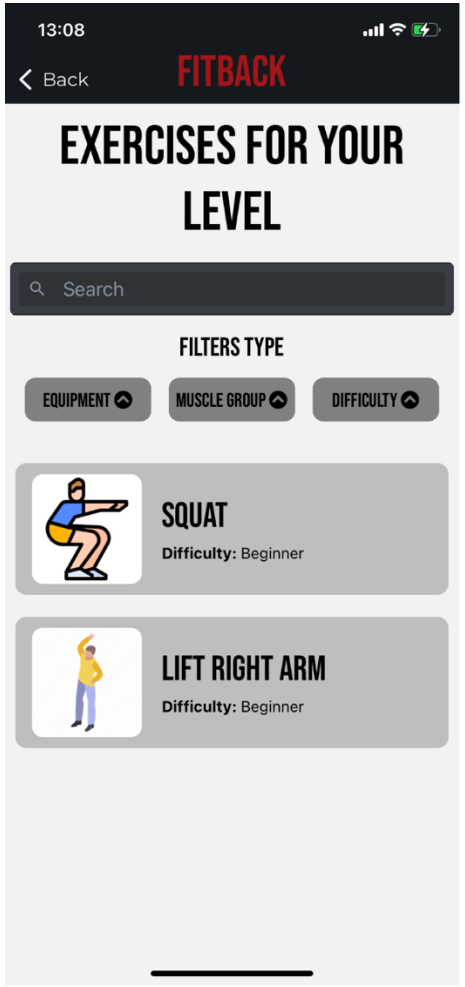


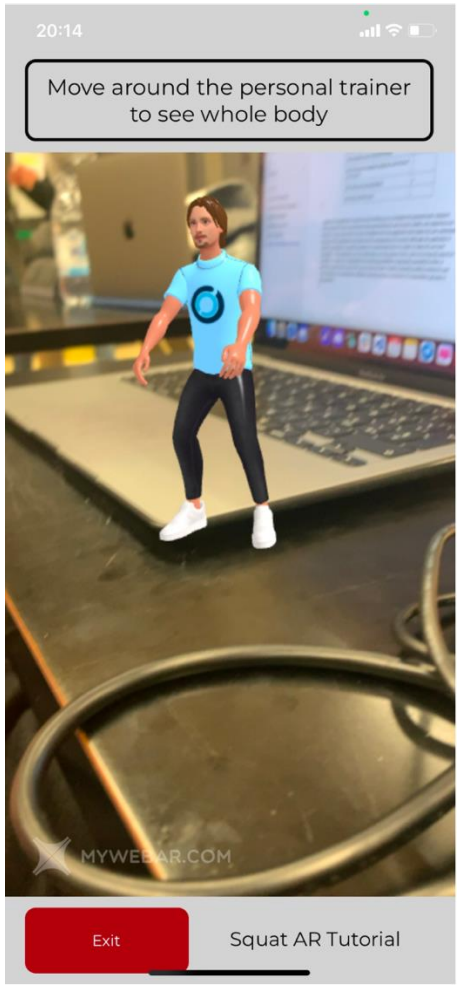




High-fidelity Prototypes

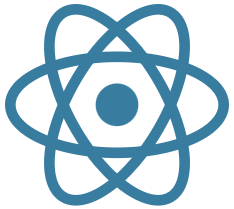
With Code





Some Tools For Interactive Hi-Fi Prototypes

With Code



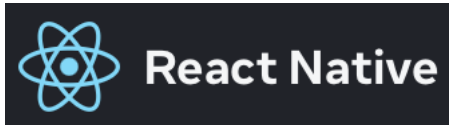
React

https://react.dev

https://firebase.google.com

https://ngrok.com

...



https://reactnative.dev

https://expo.dev

https://virocommunity.github.io

Tech and Options

- Mobile App → Web application that behaves like a mobile app
  - React + Express, PHP, React + Firebase, etc.
  - --> Alternative: a real mobile app (Android/iOS app, React Native, …)
- Tablet App → see above
- Speech-to-Text (and vice versa) + Camera
  - iOS/Android native APIs
  - HTML5 Media Capture API → HTTPS-only
- Desktop app → Web application
- AR-based app → Vivo + React Native, Unity, iOS/Android native APIs, etc.
- Notification --> HTML5 Notifications API, iOS/Android/Windows/macOS/Linux native APIs

Tech and Options

- Maps → embed Google Maps or OpenStreet Map (for basic features) or use leafletjs (also available a React version)
  - Warning: Google Maps requires a Google Developer Account with credit card info
- Geolocalization → HTML5 Geolocation API
- Uploading files → multipart (forms) in Web applications
- Touch gesture → HTML5 Touch events
- NLP → Dialogflow, Rasa, …

Note: for all the HTML5 <something> API check the "Development Resources" on the course website

References and Acknowledgments

- Google, Begin Today With Rapid prototyping, https://www.youtube.com/playlist?list=PL9KVIdeJ2K8NDpsiyYpcbB_qifd3y5CYZ
- MIT, http://web.mit.edu/6.813/www/sp18/classes/11-prototyping/#reading_11_prototyping
- Scott Klemmer, Storyboards, Paper Prototypes, and Mockups, https://youtu.be/z4glsttyxw8
- Most of the slides are adapted from those used in the "Human Computer Interaction" course of Politecnico di Torino
  - http://bit.ly/polito-hci

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